



# MAGAZINE

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The *I.C.I. Magazine* is published for the interest of all who work in I.C.I., and its contents are contributed largely by people in I.C.I. It is edited by Sir Richard Keane, Bt., and printed at The Kynoch Press, Birmingham, and is published every month by Imperial Chemical Industries Limited, Imperial Chemical House, Millbank, London, S.W.1. Phone: VICTORIA 4444. The editor is glad to consider articles for publication, and payment will be made for those accepted.

## CONTENTS

Offspring of Giants, by James Taylor . . . . .	290
People and Events . . . . .	296
Preparing for Spring, by Philip Harvey . . . . .	302
Granada, by A. R. Longley . . . . .	304
News in Pictures . . . . .	310
Sporting Parade—A. J. J. Moulam . . . . .	316
Information Notes:	
I.C.I. in Holland, by the Editor . . . . .	318
A Pioneer Voyage, by J. W. Fletcher . . . . .	320
Heritage of the Sea, by Percy Yardley . . . . .	322

FRONT COVER: Gathering Lugworms,  
by Miss M. McCarthy (Millbank)

## OUR CONTRIBUTORS



**Philip Harvey**, well known to most readers for the articles on gardening which he used to contribute every month, has now left Plant Protection Ltd. and works for the Burroughs Wellcome Foundation.



**A. R. Longley** is a translator at Alkali Division. He translates technical and scientific papers from all the usual European languages including Russian, and to a limited extent from Japanese and Chinese.



**James Taylor**, director responsible for Metals and Nobel Divisions, trained as a physicist in the Universities of Durham, Paris, Utrecht and Cambridge. He joined Nobel Division in 1928 and became Research Director and then Managing Director of the Division before being appointed to the I.C.I. Board in 1952.



**Percy Yardley** is responsible for the watermen manning the barges that convey I.C.I. salt and for the allocation of the cargoes. These cargoes are almost always for export and are transhipped to ocean-going vessels at Liverpool. He began work with the Salt Union in 1917 as a clerk in the Winsford office.

# Offspring of Giants

By James Taylor (Director for Metals and Nobel Divisions)

**This is the story behind IMPALCO,\* the joint company which has been formed by I.C.I. with ALCOA, the greatest aluminium company in the world, to take over the manufacture of wrought aluminium products at I.C.I.'s factory at Swansea.**

**T**HE Hottest Thing in Aluminium."—That's how *Fortune* headed its article on the fight that took place recently in Britain for control of British Aluminium. The story of the Great Aluminium War makes fascinating reading: it provoked the bitterest reactions in the industry and shook the City of London to the core. When the smoke of battle died down on 9th January and Reynolds T.I. had captured B.A., the pattern of the British aluminium industry changed for ever, and a new era was initiated.

To most people in I.C.I. it was only another take-over bid without any special significance, and many were probably not even aware that at Waunarlwydd Works at Swansea I.C.I. had an aluminium fabricating plant employing 1200 people. To these 1200, however, it was the "hottest thing."

Waunarlwydd was originally erected and operated by I.C.I. as an Agency Factory for the Ministry of Aircraft Production. I.C.I. bought it in 1946 for conversion to commercial operation, and since that time it has been modernised and a great deal of money has been spent on new capital equipment, on

the development of plant, processes and product, and on sales promotion. The factory produces strip, sheet and extrusions, and its products are used in lorries, rail cars and aeroplanes; in building construction, in ships, in engineering, and in the home.

In recent years, with the fall in production of military aircraft and the recession in industrial demand, the aluminium industry all over the world has been through a rough time, characterised by too much capacity, intense competition, and rising costs of production. Waunarlwydd has had a very rough time too. No one of knowledge doubts that aluminium has a brilliant future. Vast schemes for the production of the metal, undertaken in many countries have now come to fruition. The lightness, strength, technical merit and beauty of its products ensure for it a growing popularity which has already equalled copper and may well compete seriously with steel. All this we believed as, patiently and carefully, we worked at improving our products and our sales effort towards the time when the tide would turn.

Some of us have the job in the Company to reflect on policy matters, to analyse our weaknesses and our

strengths, to decide what is best for the future of our enterprises and the people who earn their living in them, and we were giving careful thought to aluminium. It was becoming clear that aluminium was a "big" international industry requiring great technical research and development expenditure, strengthened by the command of sources of primary metal. The great aluminium companies of the world were quite obviously being forced by the sheer logic of circumstances to organise their activities globally in a vertical fashion from aluminium ore, through ingot and slab, to fabricated products, and even to packaging foil, and containers.

### Challenge of Big Business

How did I.C.I. stand in all this? We think of our Company as an enormous concern with vast resources, and so it is, but not in all fields. No company can cover the whole waterfront and, frankly, in aluminium I.C.I. was a small fish in a very large pond. It could not possibly deploy the resources of manpower and capital needed effectively to command the future of aluminium; nor would it be sensible to do so, for there were already big fish in the pond. Nevertheless we had the urge to survive, and looked round the world to review the position.

### North American Producers

The great producers are in North America, but there are also large and competent interests on the continent of Europe. Most of our supplies came from Canada, where Aluminium Limited concentrated on primary production but fabricated in Britain through its great subsidiary Northern Aluminium. In Britain, as well as Northern Aluminium, there was another big company, British Aluminium, which had some primary aluminium capacity and was moving towards larger resources. In addition, there were some modestly sized independent companies. The young aggressive U.S.A. company, Reynolds Metals, which had entered the aluminium field during the second world war, had already moved into Britain in partnership with the British company, Tube Investments. In America, there were also Kaisers; Mathieson-Olin; and the biggest aluminium company in the world, the Aluminum Company of America, all of them still uncommitted in Britain.

\*IMPALCO is short for Imperial Aluminium Company and ALCOA short for Aluminum Company of America.





The casting of small aluminium billets. The molten metal which is here seen running into the mould, although called aluminium, is, in fact, an alloy.

This was the position in 1958 when the struggle for British Aluminium heated up. When it ended, the British industry comprised two large and powerful organisations, the T.I.-Reynolds/B.A. merger, and the Northern Aluminium Company (belonging to Aluminium Company Limited, of Canada). Both commanded large resources of primary aluminium, both were organised vertically and both possessed large technical, research and development potential. There were left a number of relatively small undertakings, and one of these was Waunarlwydd.

We came to the conclusion that it was vital for the future of the factory and of the people working there

that I.C.I. should join up with a partner of stature in the aluminium industry.

True we were very small in the aluminium field, but we were very large and knowledgeable in the non-ferrous metals industry of copper and its alloys, and were also in titanium and the new metals. If this wealth of knowledge and research could be used together with the immense resources of I.C.I. in management, commercial and sales organisation throughout the world in partnership with a great aluminium firm, the prospects for the future should be good. Negotiations with the Aluminum Company of America (ALCOA for short) were therefore



Rolling of aluminium slabs. These slabs start off 8 in. thick, are then heated to about 500° C. and are rolled down to 0.3 in., by which time they have cooled to about 200° C.

initiated. It's only fair to say that ALCOA had also come to the same conclusion, almost at the same time, and was all set to approach us.

ALCOA is the oldest and greatest aluminium company in the world. It operates twenty-three plants in the United States and employs about half as many people as I.C.I., but its effort is entirely in aluminium and its scale of enterprise can be judged by its expenditure on research—18 million dollars a year. It can make anything from pilfer-proof bottle caps to aluminium wigwags. We packed our bags for Pittsburgh, and negotiations with ALCOA soon confirmed what we already believed, that they would

be worthy partners, capable and willing, to make a wealth of contributions technically, scientifically, and production-wise, to a joint enterprise. The teams which negotiated the deal were headed by John Mitchell, President of Alcoa International, and myself, of I.C.I.

The negotiations proceeded rapidly and smoothly and on 24th June, 1959, it was announced jointly at a Press Conference that we had entered into an agreement to collaborate in the manufacture of wrought aluminium products.

The new company was christened Imperial Aluminium Company Limited (IMPALCO) and was





The big extrusion press. Aluminium is extruded through a die placed in the hole just to the left of the man in the blue shirt. The extrusion can take several forms, from straightforward rod to strips and angles of special shapes.

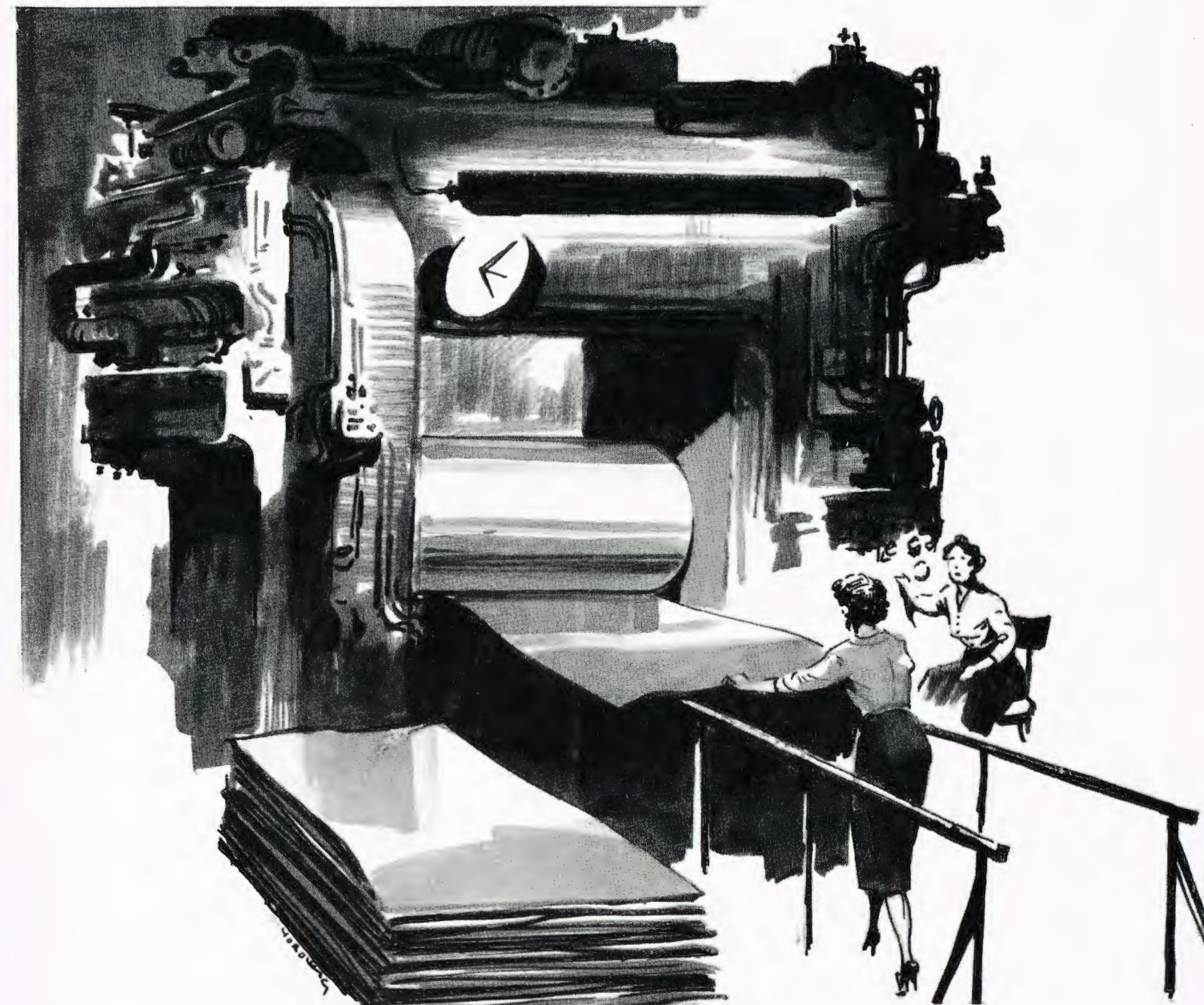
aptly referred to by *Fortune* as the "Offspring of Giants." The board of the new company is: J. Taylor (I.C.I.), Chairman; F. B. H. Villiers (I.C.I.), Managing Director; DuBose Avery (ALCOA); M. J. S. Clapham (I.C.I., Metals Division); F. J. Resch (ALCOA). I.C.I. holds 51% of the shares and ALCOA 49%, so that the company is British controlled and the I.C.I. people who have transferred to it since it began operating on 1st September are on I.C.I. conditions of employment, and there has been no disruption or unsettling of personnel.

The operation of forging IMPALCO into a finely tempered weapon fit to play a worthy part in the industry and meet the inevitable fierce competition has got away to a good start. A mission from IMPALCO has been to ALCOA plants to study manufacturing methods, techniques and know how, and is now back at Waunarlwydd and, together with specialists seconded from ALCOA, is now devising ways and means of applying the wealth of ALCOA

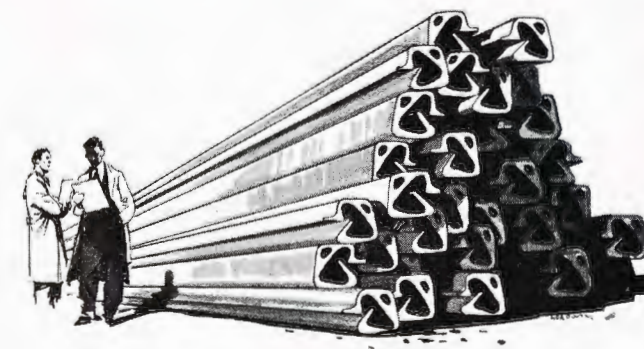
knowledge and experience to improve product quality and plant productivity.

It would be idle to pretend, nevertheless, that this alone will transform the enterprise into the "lean and tough outfit" which it must be if it is to survive and prosper. Increased effort and support will be required from every worker and member of the staff in the factory and from the sales forces. We shall also need the understanding and co-operation of the trade unions, who play such a vital part in a new operation of this character.

We look to the future with sober confidence, for it is our belief that, by marrying the outstanding technical resources and development experience of ALCOA in the specialised field of aluminium production, with I.C.I.'s extensive knowledge and facilities in the manufacture of non-ferrous metals generally and its capacity for home and overseas market developments, we shall indeed produce an "offspring of giants."



High quality sheet—that is to say sheet with the bright polish required by the aircraft industry—is produced by passing the sheet backward and forward through these rollers. Skilled women work them at great speed.





# People and events . . .

## Brighter Trading Results, Bigger Dividends

THE trading results of I.C.I. and its home and overseas subsidiaries for the first six months of the year show increased turnover, increased exports and increased profits. Group sales to external customers were £250m. which is £18m. more than for the same period last year. Group income after taxation applicable to I.C.I. for the same period was also up—from £12.4m. to £19m.—following the disappointing results for 1958. An interim dividend of 9d. on each £1 unit of ordinary stock has been declared. Worked out on this basis the dividend for the same period last year (2½%) was roughly 6½d. per unit.

Reaction on the Stock Exchange to these results was good and on the day of the announcement shares rose 2s. 8d. to 45s. 4½d.

Here are some of the things the papers had to say about the results:

*Financial Times.* The interim results issued by several chemical companies have suggested that the industry is recovering from its recession with remarkable speed, yet the half-yearly results issued by I.C.I. this week surpass anything which the market was expecting.

*The Guardian.* The outlook for British industry has been brightened by the brilliant I.C.I. results.

*Daily Express.* Three cheers this morning from mighty I.C.I.—one of the cornerstone companies of British industry—which marks off its half-year with a bigger dividend, bigger sales and bigger profits.

*Daily Herald.* Can you absorb some really big prosperity figures? That mighty £620m. industrial empire called I.C.I. announces this morning its results for the first half of 1959. Sales

\* \* \*

in those six months jumped by £18m. to £250m. and profits rose by more than £10m. to £34,800,000.

*Evening Standard.* Shares of the Imperial Chemical Industries giant jumped for joy in the stock market today.

### 'Terylene' Know-how for Poland

AN agreement was signed in Warsaw at the end of September between the Company and the Polish foreign trade enterprises, Polimex and Textilimport. The agreement covers the purchase by Polimex of production know-how and a licence to enable a plant for 'Terylene' type polyester fibre to be built in Poland, and the purchase by Textilimport of polyester fibre which I.C.I. will supply to Poland during the years 1960-64. It is foreseen that the plant producing the Polish polyester fibre, under the name of 'Elana,' will be started up in 1963.

Other countries where polyester fibre is already being produced under licence from I.C.I. are France, Italy, Germany, Japan and Holland.

### Twin Towns

THE appearance in Northwich recently of M. André Deschamps, deputy mayor and stationmaster of the

French town of Dôle, was the first outward sign of the "twinning" of Dôle and Northwich.

M. Deschamps spent two days in Northwich discussing with civic heads detailed arrangements for making Northwich and Dôle twin towns and thereby creating a special bond of goodwill. He also lunched with the Chairman and Directors of Alkali Division and made a brief tour of Wallerscote Works.

The town of Dôle, the birthplace of Louis Pasteur, was suggested to Northwich Town Council by Alkali Division. It lies in the Department of Jura over a southward extension of the salt fields of Lorraine and nearby is Tavaux, one of the ammonia soda factories of Solvay et Cie. In the same way Alkali Division's Winnington and Wallerscote Works lie close to the salt town of Northwich. Tavaux, however, is a rather smaller works than Winnington and Wallerscote, but besides producing soda ash and caustic soda it also produces chlorine and chlorine products.

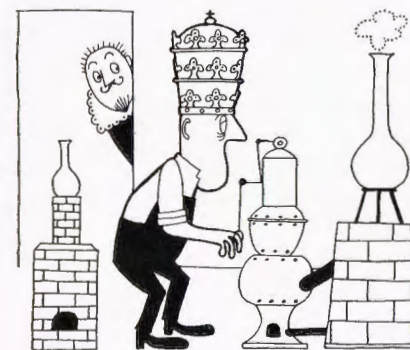
The connection between Alkali Division and Solvay et Cie dates back to 1872, when Ludwig Mond bought from Ernest Solvay the English rights for the ammonia-soda process for making soda ash and there has been the closest technical co-operation between the two companies ever since.

### Industrial Pedigree

THE story of a historic chemical industry in the Cleveland district, which perhaps provides an industrial pedigree for our own Wilton Works, was told by Sir Alexander Fleck speaking at the recent opening of the new Cleveland Technical College at Redcar.

Around 1600 alum manufacture was a monopoly of the Pope. That is to say it was until a young Englishman, Sir Thomas Chaloner, pirated the secret and set up a rival works on his own estate at Guisborough in the Cleveland.

According to one source, while travelling in Italy Chaloner had succeeded in gaining entry to the papal alum works at Puteoli and managed to have a good look round. He evidently noticed a marked similarity between the surrounding vegetation and that on his own estate back in Yorkshire



and deducing with commendable astuteness that he would find alum there too, as indeed he did, he smuggled home in some large wooden casks a number of key workers. For this he was promptly excommunicated.

His alum works became very profitable, especially after King James I prohibited the importation of alum from the Pope's mines. For Charles I, however, their prosperity proved too tempting to resist and he "nationalised" them. Then they were denationalised by Cromwell but the damage had been done and they fell into comparative disuse.

### New Dyes for Nylon

A NEW range of dyestuffs which will bring the dyeing of nylon yarns and fabrics up to the same level of development as that reached for wool and cellulosic fibres has been introduced by I.C.I. and the first four colours are already on the market. These new dyes—known as "Procynyls"—are patented specialities of Dyestuffs Division.

Like I.C.I.'s now world famous 'Procion' dyes they are reactive dyes. This means they are almost unaffected by soap and detergents when washed because they actually combine chemically with the fabric.

### Politicians

FIVE I.C.I. employees stood as candidates in the election last month and one of the five was successful. He was Mr. William Small, a fitter in the Acids Department at Ardeer factory. He won the Scotstoun constituency of Glasgow for Labour with a majority of 3370 over his Conservative opponent. This was the first election he had contested. Active in the affairs of the A.E.U., Mr. Small has held office in his local branch and has been a member of Ayr County Council. He has had over sixteen years service with the Company.

Of the remaining four candidates, Mr. David Crouch, Publicity Manager of Fibres Division, fought Leeds West and Sir Brandon Rhys Williams Bt., who works in Plastics Division's Sales Control Department at Welwyn, Pontypridd (Glamorgan) for the Tories. Dr. J. W. Bray, a work study officer at Wilton Works, and Mr. W. E. Garrett, a fitter at Billingham Division's Prudhoe factory,

battled for Labour in the Thirsk and Malton Division of Yorkshire and at Doncaster respectively.

Mr. David Price, who, until his election in 1955 as the Conservative member for Eastleigh in Hampshire, was Personal Assistant to Sir Alexander Fleck, successfully defended his seat and increased the majority from 545 to 3256.

### 'Terylene' on the Beat

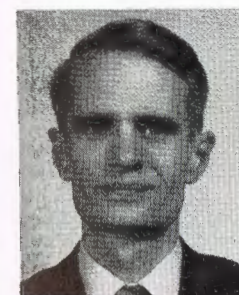
IT looks as if the London policeman's lot may be a considerably happier one next summer. The City of London police are busy trying out a new 50% 'Terylene' / 50% wool worsted jacket with a view to replacing the all wool baratheia now used for the police force's summer uniforms. The new jacket is just half the weight of the baratheia one now in use.

As part of this trial, P. C. Niblo, a London policeman, took his 'Terylene' / wool jacket with him on his goodwill tour of the United States and Canada last month. His tour included a spell of "duty" in San Francisco during the city's London Week from 26th to 31st October.

### Seven League Boots

A FEAT that would have done credit to a bloodhound let alone a cat that is getting on in years has been reported to us by Mr. F. E. Brookfield (Nobel Division).

The Brookfield family spent their holiday this year in Wales and as usual Kitty went along too. All went well until they were on the journey home. They broke the journey in Staffordshire spending the night at Biddulph with some friends. In the morning when they came to set off again the cat was missing. An intensive search



Dr. J. W. Bray



Mr. D. L. Crouch



Mr. W. E. Garrett



Mr. D. E. C. Price



Mr. W. Small



Sir Brandon Rhys Williams



produced no trace and it was a very gloomy party that finally started for home later in the day.

Nearly seven weeks later an emaciated and almost unrecognisable object appeared on the back doorstep of the Brookfield's home in Saltcoats. She had travelled at least 250 miles, the distance by road from Biddulph to Saltcoats. How did she do it? Says Mr. Brookfield: "Your guess is as good as mine. We leave that to the experts. We are quite content to have the fifth member of the family back in the fold again."

### Canal Rescue

**T**WICE in the last twelve years **Mr. Simeon Birtles** has dived into the canal near his home at Leigh's Brow, Barnton, to save boys from drowning.

The second occasion was in May this year. 50-year-old Mr. Birtles, a borer at Alkali Division's Brine and Water Works, had arrived home from work and was having tea when his son came running in to tell him that a boy had fallen into the canal.

Mr. Birtles hurried to the spot where he could see a boy struggling in the water. He dived in fully clothed and brought the boy to the bank. At first the boy was too badly shocked to speak, but eventually he made it clear that a friend of his had also fallen in the water. Although the other boy was nowhere to be seen Mr. Birtles immediately dived again into the water which is over seven feet deep at this point and found the other boy lying on the bottom. He brought him out unconscious and apparently dead.

Sending for a doctor, Mr. Birtles set about applying artificial respiration. He was rewarded with the first faint sign of life from the boy just before the doctor arrived. Now both boys—the father of one of them is employed at the Division's Lostock Works—are fully recovered.

\* \* \*

At Northwich Magistrates Court

last month **Mr. J. K. Batty**, Alkali Division Chairman, who was the presiding magistrate, presented Mr. Birtles with a bar to the Royal Humane Society's Bronze Medal which he was awarded twelve years ago, and also a certificate for his latest rescue.

Said Mr. Birtles: "My greatest reward is to see the boys running about playing happily."

### Old-time Athletics

**T**HE staging of the All-England Schools Athletics Championships at Alkali Division's Moss Farm sports ground this year revived some happy memories for one of the 15,000 on-lookers, Mr. J. A. Frayne, who himself was a prominent runner for Winnington Park Recreation Club some 60 years ago.

Even in those days the Brunner Mond track attracted star performers from miles around, and he recalls watching a great miler of the 1890s, Fred Bacon, training there for an attempt on the existing mile record. He lowered it by one second, making



it 4 minutes 17 seconds—the four-minute mile in those days was hardly even a dream.

Apart from recognised training, the local athletes used to lend themselves out to local pigeon fanciers. No, they didn't run against the pigeons. Their job when the bird arrived home was to dash off to the nearest post office with the number of the bird.

One dodge he remembers you won't find in any athletics manual. They had carefully studied the great runners of the day and found they had a 7 ft. 6 in. stride. So to lengthen their own, they ran on the railway, landing on every other sleeper.

### To a 'Terylene' Tie

**I**T is not every day that an I.C.I. product provides the inspiration for a poem in the *New Yorker*. We feel readers will enjoy the theme even if poet John Updike doesn't spell our trade name 'Terylene' the way we do—with quotes and a capital T.

My tie is made of terylene;  
Eternally I wear it,  
For time can never wither, stale,  
Shred, shrink, fray, fade or tear it.  
The storms of January fail  
To loosen it with bluster;  
The rains of April fail to stain  
Its polyester lustre;  
July's hot sun beats down in vain;  
October's frosts fall futilely;  
December's snow can blow and blow—  
My tie remains acutely  
Immutable! When I'm below,  
Dissolving in the halcyon  
Retort, my carbohydrates shed  
From off my frame of calcium—  
When I am, in lay language, dead,  
Across my crumbling sternum  
Shall lie a spanking fresh cravat  
Unsullied *ad aeternum*,  
A grave and solemn prospect that  
Makes light of our allotted  
Three score and ten, for terylene  
Shall never be unknotted.

### Guy Fawkes and all That

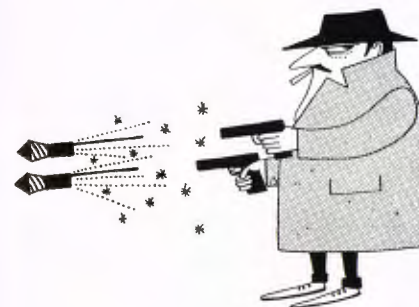
**O**NE early enquiry at the I.C.I. stand at the recent Scottish Industries Exhibition was not satisfied. An eager schoolboy approached a Nobel Division technical service engineer who was on duty.

"Do you make explosives?" asked the boy. "Yes," said the engineer.

"Sell us some gunpowder to make fireworks?"

Although this particular "customer" went away empty handed, a fairly substantial proportion of Nobel Division's gunpowder production is in fact sold to the fireworks manufacturers. Besides ordinary gunpowder (now known as blackpowder), the fireworks firms are also our customers for safety fuse and for a quantity of potassium nitrate (the activating ingredient in gunpowder) because on burning this chemical gives off a lilac flame.

Potassium nitrate has the distinction of being the only Nobel Division chemical mentioned in Shakespeare. "This villainous saltpetre" is its description in "Henry IV." Today Nobel Division makes potassium nitrate for its own gunpowder process and for many other purposes. It is formed by



reacting muriate of potash with sodium nitrate bought from Billingham, and common salt is the by-product of the reaction.

Nowadays Shakespeare's hard words are somewhat unmerited. Besides its gunpowder application, potassium nitrate in various grades is employed in bacon curing, in bath enamelling, in glass making, ceramic manufacture, heat treatment processes and as a pharmaceutical product for special purposes.

### First Polythene Sales

**A**N interesting early record of polythene came to light recently, when Alkali Division were running through some of the earlier research files. It is a notebook kept by **Mr. E. G. Williams**, now a joint managing director of the Division, when he was working in the Winnington Research Department and it contains the first recorded sales of polythene in the world.

There are just two entries for 1937. Two 10 lb. batches to Du Pont, worth the princely sum of £15. Now I.C.I.'s capacity is approaching something like 90,000 tons a year.

\* \* \*

For 1938 one of the more interesting items is the sale of 5 lb. of polythene to Submarine Cables Ltd. The "J. Dean" entered beside the Company's name is now Sir John Dean, Chairman of Telegraph Construction and Main-

tenance, the parent company of Submarine Cables, who has throughout been closely associated with the development of polythene for both radar and submarine cables. As we reported in our last issue, Plastics Division, jointly with C-I-L, now have a polythene contract worth £½m. with Submarine Cables in connection with the projected transatlantic telephone cable to Canada.

### Clinker Rings

**M**ENTION cartridges to most people and they immediately think of shotguns and revolvers. But that is by no means the end of the story: Metals Division's Ammunition Department at Witton is much more versatile than that. They produce cartridges with such varied end uses as parachute release mechanisms, fog signals, aircraft and engine starters, and blanks for sporting events and for shooting incidents on the stage or in films.

On the industrial side the Division has developed a special cartridge which looks much like the popular varieties of cartridge except that it is larger and has a specially reinforced brass head. This is currently much in demand for breaking down clinker barriers which form in cement kilns. Clinker is the term used in industry to refer to cement before it is ground down to the



white powder we all recognise. Cement kilns are about 100 yards long and slope gradually from the feeding end down to the firing end. The whole kiln rotates slowly so that the materials fall to the firing end. Occasionally a clinker ring builds up inside the kiln. Getting rid of it used often to mean cooling down the kiln (from over

### IN BRIEF

**Colliery Disaster.** The Company has made a donation of £750 to the fund set up on behalf of the widows and other dependants of the 47 miners who died in the Auchengeich, Glasgow, Colliery Disaster.

**Natural Gas for Whitby.** The reserves of natural gas from wells in Eskdale have been found to be insufficient for the Company's requirements, so by arrangement with British Petroleum and I.C.I., the North Eastern Gas Board will pipe the gas to Whitby Gas Works, where it will be fed into the normal mains supply. The natural gas was found by B.P. in 1938 during a search for oil and a further accumulation was found by I.C.I. in 1954. In recent years the discovery has been further explored jointly with I.C.I. with a view to its possible use at Wilton and Billingham.

**100 Bulls' Eyes.** No, not a feast for schoolboys, but an outstanding feat by the 5-man A team, City of Birmingham Rifle Club, of which four members work at Metals Division. In the Metric League contest recently they excelled their own previous best score of 999 with a now unbeatable 1000 out of 1000.

**No Limit with 'Luron.'** Over and over again we hear of angling successes with Plastics Division's 'Luron' lines, but after hearing of a 123 lb. skate being caught with a 20 lb. 'Luron' cast, we begin to wonder whether the strength of 'Luron' has any limitations at all. The fish was caught after about 1½ hours' play by Mr. P. W. Lander, a Director of the firm of Jury Holloware Ltd., who are important customers of Plastics Division for 'Alkathene.'

**Safety Trophy.** General Chemicals Division have won the I.C.I. Safety Trophy for the year ending 30th June 1959. Their frequency rate of 0.284 is an improvement of 12.3% over their previous best figure.

**Cheap Trip.** Six lads from Plastics Division headquarters recently took part in a race from Welwyn to Wilton and back, all on five bob, organised by the Division Youth Committee. The winner, **Mr. K. R. Clarke**, completed the round trip in 17 hours 55 minutes. One of his lifts, appropriately enough, was on a 'Drikold' lorry.

**British Legion Award.** A pensioner of General Chemicals Division, **Mr. J. W. Harrison**, has been granted the British Legion Gold Badge, the Legion's highest award. He has been a member of the Legion for more than 30 years.

**Bright Idea.** A perforated plastic strainer devised by a 23-year-old Wilton supply clerk, **Mrs. Dorothy Falconer**, "because I hated cleaning up the sink after peeling potatoes," was one of sixteen inventions, out of thousands submitted, picked for exhibition at the "Do it yourself" show at Olympia last month.



3000° Fahrenheit) so that men armed with sledge hammers could enter and break down the ring—a tiresome and very expensive business. Now there is no need to cool down the kiln but merely to stop it rotating and to fire off a few I.C.I. industrial cartridges—half an hour's job, and at only a fraction of the cost.

### Jamaican Zippers

Two of the world's largest producers of zip fasteners, our own subsidiary Lightning Fasteners and the American Talon company, are working together to set up a factory in the West Indies. Headquarters of the new company will be in Kingston, Jamaica, and construction of the factory is to start at once.

The major shareholder in the new company, to be known as Talon West Indies Ltd., is Talon Inc. The third partner in the venture is the Caribbean trading group T. Geddes Grant Ltd. of Trinidad, who have for many years acted as our agents for the sale of 'Lightning' zips.

### New Drugs

EVERY year more and more valuable drugs become available for the use of doctors and veterinary surgeons. Many are new discoveries, products of research and development in the laboratories of the world's pharmaceutical firms; others are improved versions of established preparations.

More than 80 preparations, many of them the Company's own specialties are marketed by Pharmaceuticals Division alone. Additions to the range during the past year include a unique antibiotic, a novel treatment for leprosy, a diagnostic dye and another weapon against malaria.

Griseofulvin, marketed under the name 'Fulcin,' is a new antibiotic which provides the first treatment by mouth for skin diseases such as ringworm and athlete's foot.

★ ★ ★

Our new leprosy drug 'Etisul,' reported in our January issue, offers greater hope to lepers than ever before.

It is simply massaged into the skin—an obvious psychological advantage with a disease like leprosy.

'Tenormal,' first marketed last year, is the most promising of a series of compounds synthesised by I.C.I. to combat high blood pressure.

In the field of antimalarials the most recent introduction is 'Lapudrine,' a near relation of 'Paludrine.' It has the virtue of being more active and having a longer-lasting effect, so that less frequent dosing is necessary.

Last on the list is a new diagnostic dye called 'Coomassie' Blue, used in the investigation of heart cases before surgery. This has advantages over the dyes previously used. It is safer and an injection does not colour the skin.

### 'Alkathene' to the Rescue

ONE unusual example of how the water shortage was tackled, which owes more than a little to an I.C.I. product, has been reported to us by Plastics Division's Labour Officer, Mr. T. R. Gidden. He came across it while on holiday in Devon.

Driving through the village of Belstone, just off the Exeter-Okehampton road, he was directed round a short diversion—the obstruction being something to do with the water supply. Vaguely he remembered a reference two days before in the morning papers



to the discovery by an engineer of the Devon Water Board of a natural reservoir on Dartmoor. This, the paper said, had been tapped, and the water brought down into the Board's mains by plastic pipe.

Sure enough, on reaching the end of the traffic diversion Mr. Gidden saw what was obviously this particular

plastic pipe running alongside the road and snaking off into the distance up on the moor. A closer examination of the pipe showed that it was about ten inches in diameter and in five-yard lengths joined together with aluminium alloy couplings. Each length was stamped with the maker's name—Tenaplas—a very good customer of Plastics Division for 'Alkathene.'

★ ★ ★

Mr. Gidden was fortunate in finding a friendly official, who, on learning that he was associated with the firm who made the plastic, offered information about the operation in which he obviously took great pride.

The Water Board had apparently borrowed the pipe-line and couplings from the Fire Service. Starting on Friday, 18th September, they had laid three miles of pipe (over 1000 sections) from Taw Marsh up on Dartmoor to a water main on the main road just two miles outside Okehampton. All this had been done, and the new water supply joined into the main, within 72 hours of starting the job.

### 50 YEARS' SERVICE

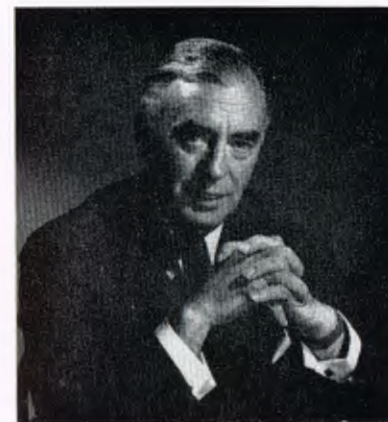
The following employees have completed 50 years with the Company: **Alkali Division:** Mr. H. Hough, Winnington Works, 15th October. **Billingham Division:** Mr. J. Butcher, Products Works, 1st October. **General Chemicals Division:** Mr. E. Faulkner, Castner-Kellner, 29th September; Mr. S. Leach, Castner-Kellner, 4th October. **Salt Division:** Mr. P. Ollier, Winsford Works, 10th October.

### APPOINTMENTS

Some recent appointments in I.C.I. are: **Canadian Industries Ltd.:** Mr. J. D. Converse, Director and Vice-President. **Heavy Organic Chemicals Division:** Mr. J. D. Cousin, Division Secretary. **Metals Division:** Mr. G. H. Alder, Director, Amal Limited; Mr. M. J. S. Clapham, Chairman (from 1st January 1960).

### RETIREMENTS

Some recent announcements of senior staff retirements are: **Head Office:** Mr. F. R. Cooper, Personal Assistant to Mr. J. L. S. Steel (retired 31st October). **Metals Division:** Dr. M. Cook, Chairman (retiring 31st December). **Paints Division:** Dr. G. O. Wills, Labour Officer (retired 30th September).



Douglas Glass

## SIR WALTER WORBOYS

*Sir Walter Worboys resigned from the I.C.I. Board at the end of last month. He had been with the Company for nearly 35 years, for the past ten of them as Commercial Director with responsibility among many other things for the I.C.I. Magazine. Sir Alexander Fleck contributes this appreciation.*

WALTER Worboys left us at the end of October and all his colleagues on the Board wish to join me in saying that we are sorry that we shall no longer have him with us and shall no longer be able to enjoy his wise counsel and advice. We send him all good wishes for happy and active work in the days that lie ahead.

Although he cannot claim any of the advantages that are sometimes alleged to accrue from an education in Scotland, he did have some reflected benefit in that his early education was acquired in the Scotch College, Western Australia. After further studies and experience in what was at that time a relatively new university, Western Australia, he came as a Rhodes Scholar to Oxford University. Following some research work there, he entered into the British chemical industry. That was in 1925, when he joined Synthetic Ammonia and Nitrates Ltd., which was then a subsidiary of Brunner, Mond & Co.

"One man in his time plays many parts"—there is, I think, much point in that quotation put into the context of Sir Walter's connection with I.C.I. from its foundation to the present day. First of all he was an active technical chemist at Billingham, working, for example, on the phosphate plant which led to the production of C.C.F. I was being introduced at that stage to work at Billingham and for several days in the year 1927 we occupied the same room in the Research Department, presided over as it was at that time by the late Kenneth Gordon.

★ ★ ★

There is not space to go through in any detail the series of activities in various sections of I.C.I. that followed: ammonia sales control responsibilities under F. C. O. Speyer; Joint Managership of the Southern Region with E. M. Fraser; Joint Managing Director of the Billingham Division with A. T. S. Zealley and Kenneth Gordon; Chairman of the Plastics Division for six formative years when the plastics industry was entering into its heritage as an important section of our present-day technology. That in turn led to membership of the I.C.I. Board in 1948 and responsibility as Commercial Director from 1949 to 1959. In that capacity he had four main specific interests where he was the recognised leader: the I.C.I. selling machine, the central purchasing organisation, publicity and transport. In all his activities in I.C.I. he has displayed great energy and drive and has been most

forthright in carrying out his responsibilities. I must mention the popularity and effectiveness in latter years of the visits that Lady Worboys and he made to various overseas activities of I.C.I. In the East, particularly, I know how much these visits were appreciated and the great amount of benefit that accrued to the Company from them.

A new phase is now on our horizon—it will be a time when Sir Walter is no longer active with I.C.I. but we all are confident that he will be active and energetic in cultural and educational causes and will be able to give leadership in many spheres.

★ ★ ★

It is pleasant to record that many acknowledgments of appreciation of his work have come to him. In 1953 the President of the Board of Trade appointed him to be Chairman of the Council of Industrial Design—a position which he still holds. One of the most important developments during his chairmanship has been the setting up of the premises of the Design Centre in the Haymarket. This is a much appreciated innovation, which bids fair to be a permanent addition of great value to the improvement in general attractiveness of consumer goods.

In 1956 the Council of the Royal Society of Arts awarded its bicentenary medal to him for his outstanding service for the promotion of industrial design.

He was awarded in 1957 the biennial medal of the Society of Chemical Industry. He played a great part in getting the new headquarters of this society established in Belgrave Square.

For the years 1953–55 he was elected Chairman of the Association of British Chemical Manufacturers and has been their president for the last two years. In the New Year Honours of 1958 Her Majesty the Queen conferred the honour of Knight Bachelor upon him. Lincoln was his College at Oxford University when he was there as a student: in 1957 he was elected an Honorary Fellow of it. That was a distinction which he valued in a very particular manner.

It is not only in I.C.I., therefore, that he has played many parts. He has contributed to our social, educational and industrial well-being in many spheres of activity. We wish him and Lady Worboys great happiness and much satisfaction in the work and service that they will contribute in the future to the welfare of the community.



# Preparing for Spring

By Philip Harvey

IN the drier areas of the British Isles (and I am thinking specially of my native East Anglia), spring often provides the most colourful display in the garden. The problem of insufficient moisture which must be resolved by mulching and watering, does not usually arise until late June. Nevertheless amateurs generally are still very conservative over their choice of flowering shrubs, bulbs, hardy perennials and rock plants. Do not misunderstand. I have no quarrel with aubrietia on the rockery, King Alfred daffodils in the border, nor the common almond by the front gate, but there are literally hundreds of equally beautiful plants which are no more difficult to manage in the average garden, and—most important—they are often no more expensive.

Every garden should contain one magnolia as this tree or shrub is not hard to grow well, although all species have certain preferences which should not be ignored. A warm, sheltered position ensures proper ripening of the wood. Magnolias dislike cold winds and spring frosts and a sunny wall is an ideal position. Deep, well-drained, cool soil is desirable, although I sometimes think the need for a cool or moist soil can be over-emphasised. I recollect specimens in Cambridge college gardens and elsewhere on soils which were frequently bone-dry in spring and summer. Doubtless generous quantities of peat, leaf mould and similar humus-forming materials were incorporated with the soil before planting.

## Autumn Planting

Catalogues and text books nearly always insist that May is the only month to plant, but I am invariably suspicious of dogmatic statements in matters horticultural, and I can assure you that autumn planting is quite practicable. The fleshy roots must not be injured and it is always advisable to choose young trees as they transplant better. Watering may be needed when planting in May, specially on light soils, and a two-inch mulch of damp peat is also helpful.

Probably the easiest species is the deciduous *Magnolia Soulangeana* which bears rounded, white and purple flowers on the naked stems in April. It is usually in full leaf by the end of May. This species is very happy in town gardens and except in really cold districts makes an admirable centre-piece for a lawn. Even when the flowers are damaged by frost, a second crop of bloom may follow.

Forsythia is absurdly easy to grow and there is certainly no need in this instance to worry about possible injury to

the roots when transplanting. Lynwood Gold is a particularly good form with broader petals than other varieties. It is an erect grower with little tendency to sprawl and is readily increased by detaching the suckers from the base of the plant. The old wood should be removed directly after flowering to stimulate the growth of the young shoots which will carry next year's blossom. A pink flowering almond makes an excellent companion to yellow forsythia.

## Dual-purpose Cherry

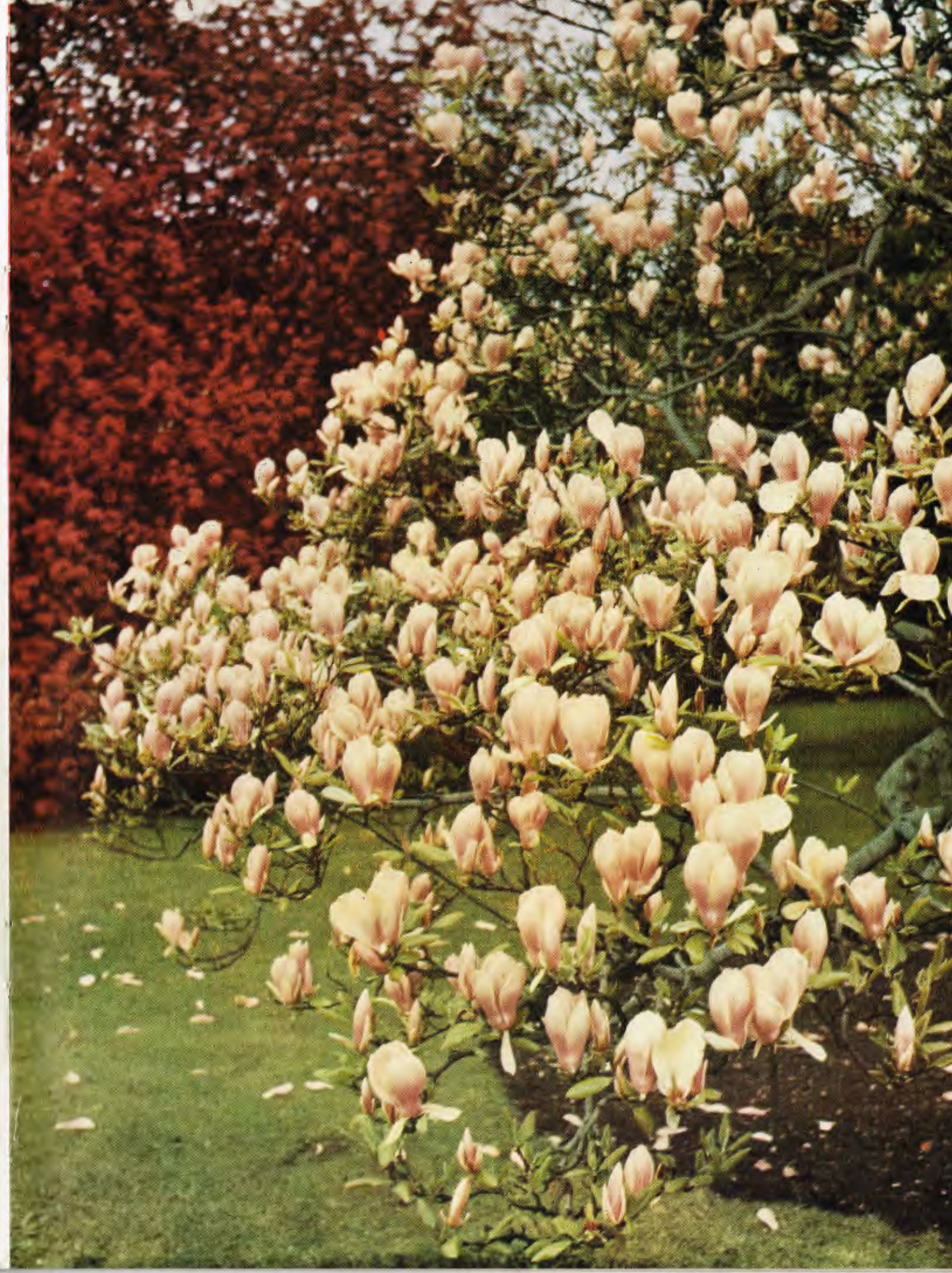
*Prunus sargentii* is a dual-purpose flowering cherry which merits wider planting. Indeed, some experts consider it the most beautiful of all cherries. The single, deep blush-pink flowers appear in March and are followed by reddish-bronze foliage which later turns green. In early autumn it assumes vivid scarlet hues which are fortunately not dependent on the type of soil.

*Prunus Tai-Haku* comes a little later. The pure white flowers are exceptionally large and the young leaves are a warm coppery-red. I am very fond of *Prunus Ukon* which is generally described in catalogues as greenish-yellow, a much more attractive colour than might be supposed. The flowers are semi-double and *Ukon* associates admirably with the more familiar pink cherries. It is seldom seen in gardens although it presents no cultural difficulties.

The wild or species crocus is still neglected by most amateurs, despite ease of culture and lowness of price. For naturalising the silvery-lilac *Crocus tomasinianus* is hard to beat and for two excellent reasons—half-a-crown or even less will buy a dozen corms and this species invariably seeds itself. *C. olivieri* is rich orange-yellow, while for lasting qualities and real resistance to bad weather, I would give top marks to *C. sieberi* Violet Queen (the name describes the colour) and *C. chrysanthus* E. A. Bowles with its large, canary-yellow flowers.

My favourite spring-flowering hardy perennial for cut bloom is the old-fashioned aquilegia or columbine. This has been improved by the hybridist without loss of grace, surely an achievement which is the more meritorious in that the flowers of present-day strains and varieties are much larger than in the species. Aquilegias thrive in sun or part shade, although they are perhaps happier on land that is reasonably retentive of moisture. They are inclined to deteriorate after about the third year, but are easily raised from seed sown in a cold frame in April or a month later in the open.

A *Magnolia Soulangeana* in full blossom. In the background is a *Malus lemoinei*—a handsome easily grown flowering crab.







By A. R. Longley

With its glorious fountains, its immortal Alhambra and its proud gipsies, there is only one . . .

# GRANADA

**A**N abundance of water in an arid land—this is the true miracle of Granada; for without water there would have been nothing but a barren rock rising from the dusty plain.

Mysteriously water appears and vanishes in springs, cascades, and chuckling waterfalls; it pours from the mouths of classic figures in the Renaissance fountain of Charles V and from the mouths of the twelve little lions in the Patio de los Leones; it bursts forth in cool white sprays from fountains in the innumerable gardens of potted geraniums, of roses, oleanders and oranges in the Alhambra precincts; and nowhere is it employed more gracefully than in the gardens of the Generalife, the summer palace across the valley, where the fountains play in a white trellis pattern over the lilac of the evening sky and the delicate pink of the distant sierra is reflected in the long, narrow pools flanked on either side by dark colonnades of myrtles and cypresses.

It is only when you lift up your eyes to the snow-flecked Sierra Nevada to the south east, that rises so gently to the unbelievable height of 11,427 ft. at Mulhacen, the highest point in Spain, that you realise where all this water has come from.

When you think of the genius and industry of the Moors who built and lived in this fairy palace, with romantic names like Mohammed Ben Al Ahmar and

Mulet Abu'l Hassan (this being perpetuated in the name of the mountain), you pause in admiration. These men were much more than mere gardeners; they had the genius of poetry combined with the skill

of engineers; they saw how to blend the exigencies of a martial ruling class with relaxation. Their creation is a lyric poem, miraculously told in stone and brick, in marble, mosaic and tiles, in gardens and water. And at night their ancient song is taken up by the nightingales that haunt the wooded slopes below the ramparts.

Inside the palace itself, one passes through the centuries into what remains of another world. The clock spins back, and you stroll through patios from the Arabian Nights, gateways that could be in Damascus or Aleppo, gardens that stem straight from Babylon; you revel in the sheer poetry of the names of these places: Puerta de la Justicia, Plaza de los Aljibes, Sala del Mexuar, El Mirador de Lindaraja, El Peinador de la Reina. Some of them are still poetry when translated: Gate of Justice, Court of the Myrtles, The Queen's Boudoir, Court of the Gilded Room.

The Court of the Lions, perhaps the most famous piece of architecture in Europe, was the centre of the harem, the private residence of the Moslem rulers. It is said that the search for women of beauty to match this palace extended from Northern Europe to the Congo. Their praises mingle with those of Allah in the carved inscriptions on the walls of almost every room.

I listened to the lilt of these being read aloud by

Moroccan tourists. And there was violence too. Legend says that, fearing a plot against him, Boabdil II entertained his rival chiefs to a sumptuous banquet and, at a signal, had them all massacred. Their heads are stated to have been stacked in the alabaster basin supported by the twelve little lions.

My first night in Granada was a night of full moon. I sat in the dark room of a *fonda* on the hill of the Sacro Monte where the gipsies live in their caves. I could see the palace across the valley in the grey moonlight through the window grille of the old house, where I was sipping coffee and cognac, while an olive-skinned boy, whose face, with its hawk-like nose, high cheekbones, and large almond-shaped eyes, revealed his Moorish descent, tenderly caressed a guitar, and casually picked out a delicate pattern of liquid flamenco in a tremolo of wayward, tender melody, stopped abruptly by savage strident chords. At times he seemed to play in his sleep; he lay across his guitar with his eyes closed and paid no attention to me, even when I pushed him a refill of coffee and cognac, or to the group of gipsies who had congregated outside to listen to his playing. There was no place for conversation.

It was only later when we two were joined by more gipsies, that he came to life, as they began spontaneously to clap out his rhythms, and in turn to



Looking across to the Alhambra in the evening light from the Generalife Gardens







leap into the centre of the room to stamp a *zapateado*. Dancing is in the blood. One afternoon in the newer part of Granada, I raised my camera in a quiet street, which I thought would make a good background for a picture, hoping some bright colour would appear. A group of girls at this moment came out of a house, and instantly one of them in a red skirt began to dance.

One of the delights is to get lost in the lanes and alleys in the Albaicín, the old Arab quarter. I once climbed the hill to the church of San Nicolás, intending to sketch the landscape. As I set out my tackle, old men insisted on washing the whole area with buckets of water from a nearby fountain. The cool freshness was astonishing, and I spent two happy hours making my sketch and listening to the local brand of Andalusian dialect as the men chatted together and from time to time chastised the noisy children. At seven o'clock the light changed to such an extent that I abandoned the painting, and captured the fleeting effects of an amazing sunset by the much simpler device of pressing the shutter release.



Camera studies of Granada gipsies with (below) a view down one of Granada's main shopping streets







# NEWS IN PICTURES

Home and Overseas

Sir Alexander Fleck, I.C.I. Chairman, visited the Lightning Fastener Factory at Port Elizabeth recently when he was touring A.E. & C.I. Ltd. and I.C.I. (South Africa) on a farewell tour before his retirement. During the visit he made a 20 years' service award to Mr. L. H. Aitken, Manager of the Lightning Fastener Factory, wife of the Managing Director of members of the staff of the Factory. Below: with Mr. L. H. Aitken and Mr. G. E. Hughes watching two employees assemble fasteners



Stephanus Parti, sixty-nine-year-old employee of A.E. & C.I. Ltd., is pictured here being chaired off with great dignity by a guard of honour of native firemen, at a recent long service awards presentation. He was one of the seventeen non-European awardees whose total service to the Company amounted to four centuries. Mr. Parti received the easy chair and gold inscribed walking-stick seen here in our picture



Outsize advert. This unusual effect in a Yorkshire meadow was the result of 'Kaynitro,' the fertiliser made at Billingham Division, being applied in March at the equivalent of 5 cwt. per acre to the word 'Kaynitro.' The field was cut for hay in June and is now being grazed by sheep who seem to prefer the area which has received the fertiliser



Toughest trip. Alan Whitehead (right), a Billingham Division apprentice fitter, is seen here with his brother examining a pair of reindeer antlers, a trophy from a recent six-week trip to arctic Sweden with the British Schools Exploration Society. Blizzards, snowdrifts and the sound of wolves and bears were the order of the day during a 180-mile walk which was the main feature of the expedition. Alan described it as the toughest experience he has known



Doll show. Mrs. L. M. Dispain, Plastics Division, is seen here with the Terrot Cup she won for entering her Khasi Dancing Girl doll (right) in the Northern Festival of Dolls. The award, made for the best doll dressed either to an original design or in costume, was won against keen world-wide opposition



Westminster Cathedral



Vickers Armstrong building site

Garage of the Speaker of the House of Commons

Thames House South

Thames House North

**Thameside panorama.** Our picture, which shows some of the main I.C.I. Head Office buildings at Millbank, was taken by Mr. George Warren, of the Head Office Film Unit, from the roof of our offices at 20 Albert Embankment, on the south side

Twin towers Westminster Abbey

Big Ben

Spires of Whitehall Court

Shell Me House



Westminster Bridge

Lambeth Bridge

Imperial Chemical House

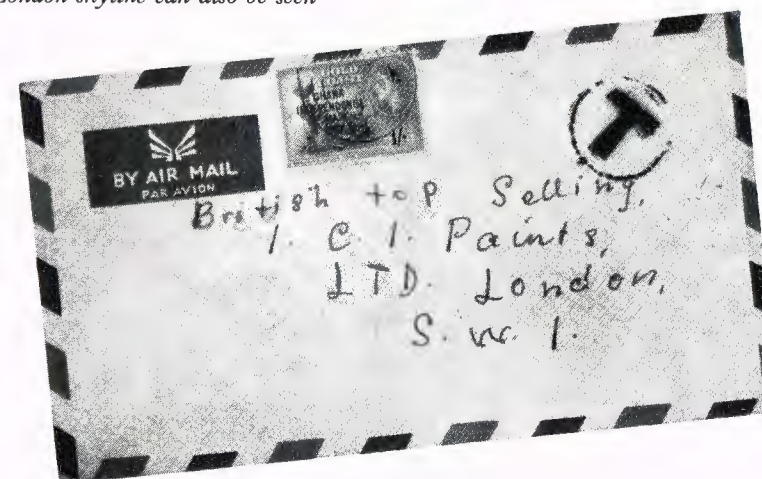
Victoria Tower and Houses of Parliament

Office buildings at Millbank, was taken by Mr. George Warren, of the Head Office of the river. Other well-known landmarks of the London skyline can also be seen

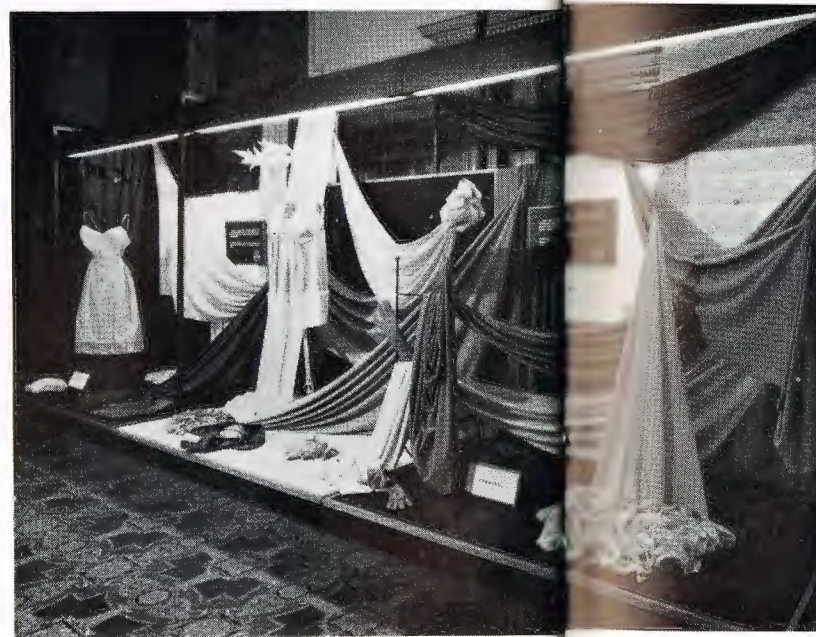


**'Visqueen' on the road.** Some of Wilton Works' employees will literally ride over a material they helped to produce, when the Middlesbrough trunk road reconstruction is complete. Wilton's part was to supply the polymer chips to British Visqueen Ltd., a subsidiary of I.C.I. who made the 'Visqueen' polythene film which was used during the critical curing period of the concrete and finally re-used as an underlay. The use of 'Visqueen' for such a project cuts the need for constant watering of newly laid concrete and produces a stronger and more durable result

**Unsolicited testimonial.** A letter from a customer in Ghana reached its destination unhampered by an abbreviated address. Paints Division are delighted that he has such a high opinion of their products



**Better than bombs,** was Mr. Krushchev's comment when 'Perspex' baths were on show in Poznan earlier this year. Later I.C.I. presented him with a blue one. These baths are now on the market in Britain, and "Miss Great Britain," 18-year-old Valerie Martin, tried one out at the recent I.C.I. "Plastics in Building" exhibition in Manchester



**Launching 'Procynyls'.** At exhibitions held in London, Leicester, Glasgow and Manchester, Dyestuffs Division, displayed its latest discovery—'Procynyl' brightly coloured fabrics from countries which use I.C.I. dyes. The new dyestuffs are used mainly for synthetic fibres such as nylon



**New look for 'Terylene.'** These machine-knitted garments made up in 'Crimplene' and shown by top models at a recent Milan fashion show, demonstrate the versatility of this yarn. Made from 'Terylene', it will not shrink, stretch or felt and as our pictures show, is attractive to look at. Good news for home knitters: 'Crimplene' in yarn form should be in the shops by the time you read this





**Mrs. E. Lindsay**, one of the first women to receive the I.C.I. Bravery Award—there have been only three—retired from Nobel Division's Powfoot Factory recently. She received the award in 1944 following her action in rescuing workers from a burning building at great risk to her own safety. Our picture shows her with works councillor Mr. W. Smith who presented her with gifts from her colleagues



**Mrs. Celia Marks**, wife of Mr. William Marks, quarry manager of the E.A. Portland Cement Company, Kenya, which is an important explosives customer of ours, is the winner of this year's cup awarded by I.C.I. at the annual Kenya Bisley. She is seen here with her husband, who has also won it several times in the past



**Marksmen's haul.** Four riflemen from Metals Division's Kynoch Works excelled themselves at the autumn Scottish National Meeting. Using I.C.I. 'Tenex' cartridges, they brought home between them the impressive array of trophies seen here. The winners were Messrs. J. Hall (3), A. D. Skinner (1), W. B. Godwin (2), and, shooting together with T. Knight, they brought home two team trophies



**James Boyce**, a Nobel Division apprentice, was one of only three boys out of a hundred on his course at the Outward Bound Moray Sea School, to obtain first class honours



**Bed-pushing marathon.** Laboratory staff of Steatite and Porcelain Products Ltd. added £14 to the funds for Stourport's Land and River Carnival when, clad in pyjamas and shortie nightdresses, they pushed an old iron bedstead 21 miles



**Siamese twin roses.** This unique rose formation was grown by a member of Plastics Division. It is the first occasion he has seen two such perfectly formed buds within one rose. The variety "Ena Harkness" is a rich crimson colour



**Bygone age.** This old print taken in 1866 shows the pupils of Miss Bell's and Miss Bradford's Academy playing croquet on the lawn at Winnington Hall. The Winnington Hall Estate was bought in 1873 by the Brunner, Mond partners as the site for their first chemical works. The Hall is used today as a guest house for visitors to Alkali Division and as a club for the Division Management



**Five lucky lads.** When five Wilton Works' junior footballers were chosen to play in the County trial match for the North Riding F.A., Wilton boys scored all three goals for their team to win 3-2. Seen here with the team trainer, Mr. Joe Henderson, they are (left to right) Bob Collier (1 goal), Tom Gray (2 goals), Jim Hines, Alan Hopwood and Trevor Scott

**'Corvic' for pipes.** Laying pipes in narrow streets need not mean traffic jams. This was demonstrated when Northwich's water main was replaced recently under the High Street. Using plastic pipe made from I.C.I. 'Corvic', the whole operation took only 24 hours, including digging the trench overnight and joining the pipe in a side road. Because of its lightness and flexibility, the entire length was laid the following day





# A. J. J. MOULAM

By Denzil Batchelor



WHY does a man climb 800 feet of sheer perpendicular rock never scaled before? At 31, Anthony John James Moulam has to his credit over fifty *first ascents*, ranging from twenty to eight hundred feet in height, and is not very sure what first set his feet on the upward path. It has, he thinks, got something to do with pitting himself against nature and being allowed to take his time in the struggle. Again, part of the charm of the challenge has been that his physical prowess has been tested to the borderline of his capabilities—but never beyond. (He has always refused to take risks, and one record he holds is that of having reached the pinnacle of experience as a rock-climber *without ever having fallen*.)

Tony Moulam's unusual name derives from Du Moulham, the manor near Corfe Castle a branch of his family was given when it came over with the Conqueror. He is the son of a Derby clockmaker, and neither of his parents nor his one sister had the faintest interest in rock-climbing or mountaineering. He himself first became infected by the exquisite fever when he was given a bicycle at Christmas at the age of 12, and set out to explore Dovedale. He came back several hours later than expected—or perhaps it would be truer to say that he never came back. He had fallen in love with high places, and his heart has been among the peaks ever since.

## No Viking

At that, our Mr. Moulam is no Viking with a falcon's eye. He is just above medium height, is growing bald, and wears spectacles. He is a Representative of I.C.I. Plastics; and is, I should say, a very representative Representative. Yet he is a man of the peaks to his marrow. His eyes are on the pinnacles, and he talks the language: he will converse about a *belay and stance*, where a rope can be tied by your stance to anything from a spike to a chunk of rock; or of a *pitch* (a section between stances); or of a *crack* (a crevice into which you can't fit), or a *chimney* (into which you can); or of a *slab-angled rock* (up to 60°);

or of a *wall* (more than 60°); or of a *hand jam* (a superior handhold developed by his colleague Peter Harding); or of a *running belay*—the special grip of a thin nylon rope, developed by Harding and himself.

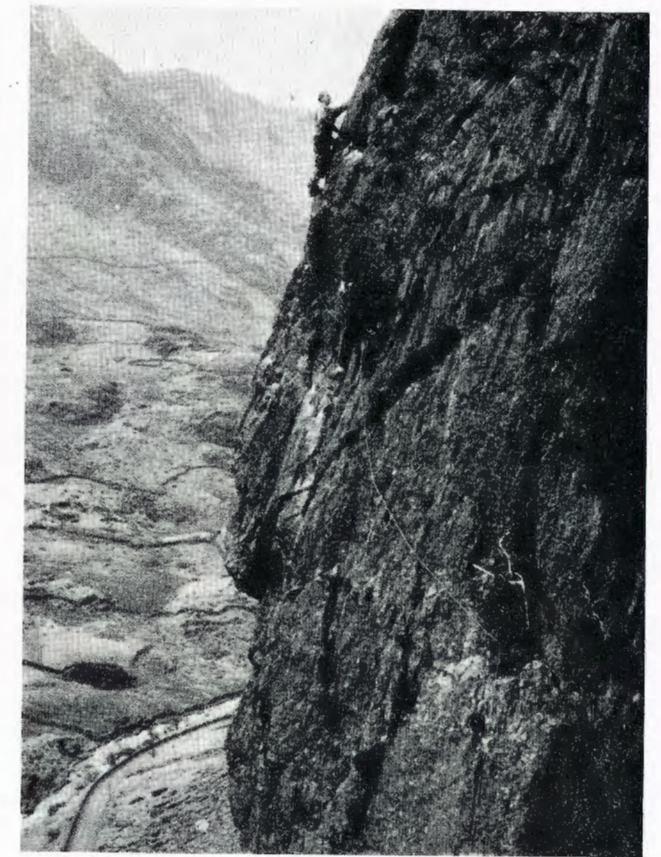
When he was 17 Tony Moulam formed his great partnership with Peter Harding, two years older than himself and the best rock-climber of his day. They were then about the most invincible team in Britain, with famous first ascents to their credit in Wales, Scotland, Derbyshire and the lakes.

The war, that inconsiderate old marplot, was enough to upset the calculations of any starry-eyed individualist, but Tony was much too realistic to have his plans thrown out of gear. Perhaps he had a right to regard his service with some cynicism, for he was called up on VJ Day, which gave him no real opportunity of showing himself a front-line hero. But he would scale the peaks, none the less. He wasted no time, on reaching his OCTU, before organising the Royal Signals OCTU Mountaineering Club. "This," he explains, his spectacles gleaming with triumph, "ensured that we got rations and free transport for our week-ends in the Lake District."

After the war, began, deservedly enough, the years of achievement. In 1952 he made what is perhaps the greatest of his first ascents: Mur y Niwl ("Wall of Mists") on Craig Yr Ysfa on the Carneddau in Snowdonia—400 feet of rock, perpendicular at best and overhanging in parts. He climbed it by a kind of rising traverse, with Johnny Churchill as his partner. In the same year—on the very day that he should have been receiving his degree at Manchester University—he made the first ascent of Ogof Direct on Cwm Silin, eight miles south-west of Snowdon. There were plenty more such victories. Over fifty at least—but he cannot remember exactly how many times he has been the first man in the world on top of a mighty span of rock, with the right to name the climb as he chooses.

## Peaks v. Mountains

He is, of course, a mountaineer as well as a climber. He has climbed the Meije (over 13,000 ft.) in the Dauphine, he has climbed on the Aiguilles from Chamonix and elsewhere in the Alps. On the whole, he prefers mountaineering in Britain, although almost all peaks in this country can be conquered—though not by him—without resort to rock-climbing. "In the Alps," he explains, "there's the devil of a lot of slogging up steep paths with an enormous rucksack—to reach another steep path." My feeling is it is the rucksack he objects to. He once taught mountaineering to a troop of Boy Scouts in North Wales. The four-mile trudge to the foothills seemed interminable; and when they arrived he took off his rucksack to discover that the little cherubim had loaded it with 14 lb. of



A. J. J. Moulam climbing Crochstone Rib in Wales

rocks. "Our good deed for the day," the most candid-countenanced of the lot announced recklessly.

Tony's greatest year was 1952, when there wasn't a climber in Britain to approach his record. Since then he has seen the national standard, both in mountaineering and in rock-climbing, vastly improve. The inspiration and example of men like Joe Brown of Manchester and Don Whillans of Salford is one reason for this. Another is that the number of climbers has greatly increased as a result of the easing of hire-purchase terms for motor-cycles.

He makes it clear that having a good head for heights is not an essential gift for the ambitious rock-climber. "So much of your work is a matter of concentration at close quarters on the job in hand that you haven't time to look down and get paralysed with terror."

Your hands are, I think, as important as your eyes: but more important than either are your feet. Tony himself does not feel he has been handicapped by wearing spectacles, though these have twice been knocked off his nose above cloud level.

Once they fell 50 feet and were retrieved unbroken; and once they were shattered when his leader fell 25 feet on to Tony's back on Holly Tree Wall above Idwal Slabs.

Tony Moulam will conquer yet more peaks. He is a young man who believes there is room at the top.



# A PIONEER VOYAGE

By J. W. Fletcher

Last May Heavy Organic Chemicals Division, as already reported in the *Magazine*, co-operated in a pioneering trial of transporting chemicals to the Continent in a flexible towed container. The trial was a success and a new era of bulk transport of liquids by sea may be on the way.

THE tug lurched sickeningly, but the throbbing engines of the *Fiery Cross* drove her forward through the heavy sea. From the bridge, I could see the sinuous nylon rope, stretching and relaxing as the Dracone, 600 ft. astern, ploughed through the heaving swell like a great black whale. At any moment it seemed possible that water would spout from the monster, and a great tail propel it forward with a burst of power.

This was no voyage of the imagination but the result of twentieth century scientific calculations. In 1956, Cambridge scientists had conceived the idea of transporting liquids lighter than water by containing them in flexible rubber bags (instead of the usual rigid tankers) and towing them behind a ship.

The great advantage of

such containers is that they can be rolled up when empty and are much cheaper than normal tankers or barges. Surprisingly, they are so flexible that they suffer no damage when in collision with other ships or wharves. Now the practical application of their theory was being tested at sea by towing a Dracone across from the Tees to the River Scheldt in Holland.

Translated literally from the Greek, Dracone means sea-serpent, and it is obvious that this is the derivation of the English word dragon. Today, Dracone signifies a flexible container made of a nylon fabric covered on each side by synthetic rubbers. Filled with 40 tons of liquid hydrocarbons for the trial run, it resembles a cigar or sausage.

When the trial was discussed with the Tees



A close-up of the Dracone inflated with 40 tons of chemicals. Containers ten times this size are now planned.

Towing Company, who agreed to take on the towing of the Dracone, there was considerable shaking of heads about the use of a 2 in. nylon rope for the tow. "We normally use 8 in. nylon," they said. Colonel Hasler, in charge of the experiments for Dracone Developments, did his best but they were plainly unconvinced.

The tug to be used, the *Fiery Cross*, was no stranger to unconventional tows. Her claim to fame was that she had towed the great white whale himself in the film "Moby Dick." In the end much interest was stimulated and not only did we have the regular crew under skipper Mick Spink but also director Claude Fairweather and marine superintendent Charlie Duncan with us.

Saturday, 23rd May 1959, Dracone day, was dull with a mist curling up the Tees estuary, a poor augury for the voyage. The fears of the skipper had been allayed the previous day when tests in the bay had shown that the towing load was low and the thin nylon rope adequate.

Out at sea the Dracone became the Loch Ness monster itself. The waves passed down her back, giving her humps. She quivered like a jelly and on turning just bent in the middle. Behind her the tail float carried the navigation light and a black flag. But with the tug rolling heavily I was soon glad that she was not often visible with her belly going up and down.

Early on Sunday we lost the tail float. The skipper swung the tug round in a great arc; in 15 minutes he pointed over the starboard bow and said, "There it is," and there was the black flag streaming in the breeze above the tail float.



The Dracone in mid-channel, just visible from the stern. Its antics recall the Loch Ness monster.

As we neared the Dutch coast a strong northerly wind hit us and now the *Fiery Cross* threatened to roll right over. For two hours we were battered and when we reached the sanctuary of the Scheldt it was with relief that we saw that the Dracone was still behind.

Our return journey was uneventful and it was a beautiful evening as we passed the South Gare into the Tees. The flare stacks at Wilton stood out under a cloud-flecked sky and the great factories of Tees-side were silhouetted by the setting sun. As we stepped on to the quay it felt strange to be on solid ground again, strange not to have to tense oneself against the motion of the tug. We had pioneered a new method of the bulk transport of liquids but not all of us agreed with Jim's remark, "I could do with a trip like this every week."

The first long sea voyage has proved that a Dracone can transport liquid cargoes across to the continent. But to I.C.I. the real interest will come when Dracones of 300-400 tons are available. Then we may see the various organic liquid products of Heavy Organic Chemicals Division shipped this way to the continent.





letting the cat out of the bag



toeing the line



between the devil and the deep blue sea

# Heritage of the Sea

By Percy Yardley

How many people realise how rich our everyday speech is in the nautical idioms of our forefathers?

**I**N the vast range and volume of the English language there is a great wealth of vocabulary and idiom derived from ships and the men who sailed in them long ago—probably more than in any other language. Particularly is this so in common parlance. Some of these terms and phrases are obviously nautical but with others the nautical origin is obscure.

Thus, the expression “letting the cat out of the bag” derives from the bad old days of flogging in the navy, when the cat o’ nine tails was kept in a red baize bag until needed. And when a housewife complains that there “isn’t room to swing a cat,” she is referring, unknowingly, not to the domestic animal but to the space in the old-time man-of-war needed for the flogging of a man.

“Running the gauntlet” recalls the punishment awarded in the navy up to the end of the eighteenth century for a crime affecting the whole ship’s company, such as a theft. The offender, stripped to the waist, was given a dozen lashes and then forced to walk round the deck between two lines of shipmates, each of whom gave him one or more blows with a rope’s end as he passed. The master-at-arms walked backwards before him to prevent the victim going too fast. At the end of his painful journey the culprit was given another dozen lashes, washed in brine, and returned to duty.

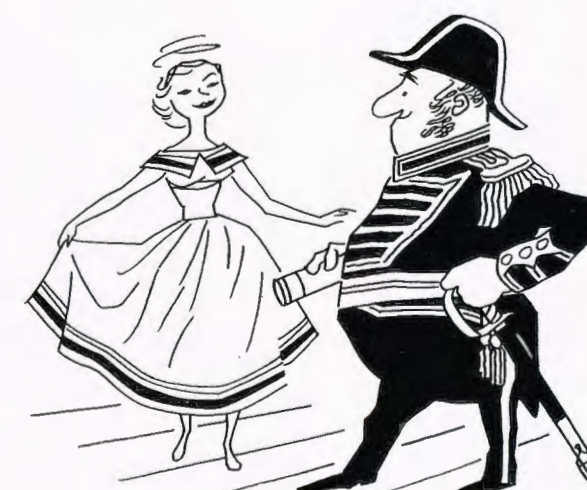
When we speak of “toeing the line” we are recalling the naval custom of “mustering by open list,” or, in lower deck slang, “White Line Day” when every man toes the line on deck and recounts who he is and what he is paid for.

The expression “cut and run” comes, not from the cricket field, but from the sea. When it was necessary to leave an anchorage hurriedly, the old sailing ships used to cut their hemp cables and run before the wind. In 1782 Admiral Hood took his fleet from St. Kitts in this manner, when he put to sea at night without the knowledge of the French.

The saying that “there’s the devil to pay” emanates from the fact that the “devil” was one of the most difficult seams to caulk and “pay” with pitch because the ends of the deck planks were butted into the massive covering board which margined the scuppers. So, too, when a man is in a difficult position and we say he is “between the devil and the deep blue sea,” we are using the old-time sailor’s way of saying that a man was in danger of going overboard.



at loggerheads



sailing under false colours



the bitter end

When we speak of two persons being “at loggerheads,” we are using another shipwright’s expression. A loggerhead consisted of a ball of iron attached to a long handle which when heated was used to melt pitch or tar. It could be quite a formidable weapon.

“Taking the gilt off the ginger bread” refers to the elaborate decorative carving and scroll work on the bows and sterns of the clipper ships of the last century, commonly known as ginger bread. If it was damaged in any way, seamen talked of “taking the gilt off the ginger bread.”

The term “nipper” as applied to a boy, goes back to the days when in weighing anchor the ship’s cable was brought in by means of an endless rope, known as a messenger, wound round the capstan. The cable was secured to the messenger by stoppers known as “nippers” and worked by the ship’s boys, to whom the term was eventually applied.

“Waisters” were youngsters and green hands too inexperienced to work aloft and therefore employed in the waist of the ship. Hence it became a term of reproach for a seaman to be called a “waister,” an expression now used to denote a ne’er do well.

A man “sailing under false colours” and trying “to get to windward” of somebody by dubious means can be cautioned to “look out for squalls” lest he be “taken aback” or have the wind “taken out of his sails.” You may say he is on the “wrong tack” and that, though he may say “the coast is clear” he will in the long run “fall foul” of authority and have his wrong-doing “sheeted home” to him.

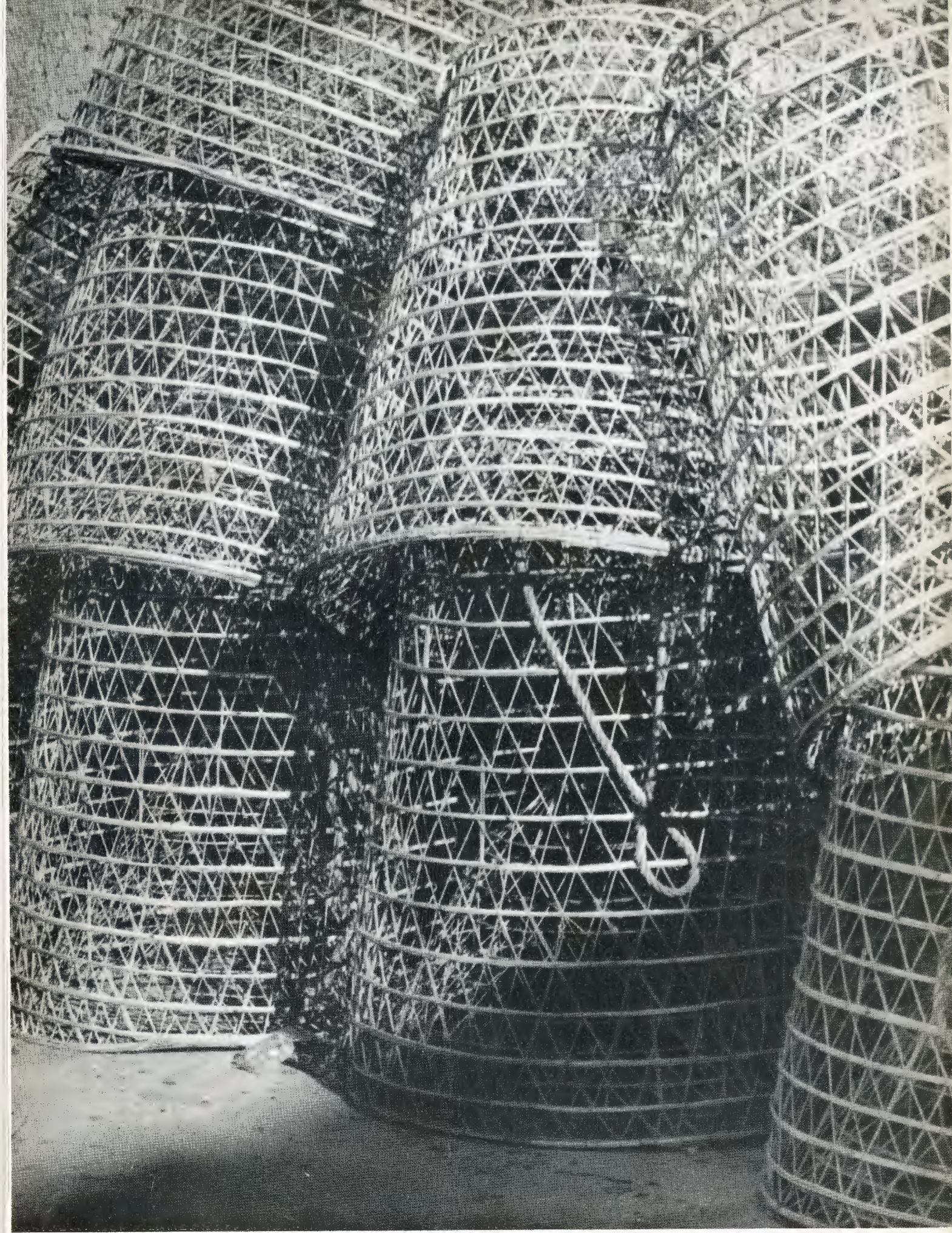
“Where are you bound for?” is a common question, but the reply may elicit the remark, “So that’s the way the land lies.”

If you refer to something or somebody as a “wash out” you are harking back to the old navy days when slates were used to record signals as they were made and “wash out” meant a cleaning of the slate.

Finally, when you come to a “bitter end,” you are still borrowing from the sailors. A ship was said to be brought up to the “bitter end” when, in anchoring, her cable was allowed to run out to the end secured to the bitts, and no more remained to be let go.

As Joseph Conrad has written, the technical language of the seaman “is an instrument wrought into perfection by ages of experience, a flawless thing for its purpose.”





*"Lobster Pots"*

*Photo by Miss N. K. Lewis (Millbank)*